

### **REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed March 16, 2007. Through this response, independent claims 1, 12, 17, and 28 have been amended, and claims 2, 14, 18, and 30 have been canceled without prejudice, waiver, or disclaimer. Reconsideration and allowance of the application and pending claims 1, 3-13, 15-17, 19-29, and 31-32 are respectfully requested.

#### **I. Claim Rejections - 35 U.S.C. § 102(e)**

##### **A. Statement of the Rejection**

Claims 1, 2, 4-7, 11, 12, 16-18, 20-23, 27, 28, and 32 have been rejected under 35 U.S.C. § 102(e) as allegedly anticipated by *Ishida et al.* ("*Ishida*," U.S. Pat. No. 6,661,839). Applicant respectfully submits that the amendments to claims 1, 12, 17, and 28 have rendered the rejection moot, and further that claims 1, 2, 4-7, 11, 12, 16-18, 20-23, 27, 28, and 32 are allowable over the art of record.

##### **B. Discussion of the Rejection**

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(e).

In the present case, not every claimed feature is represented in the *Ishida* reference. Applicant discusses the *Ishida* reference and Applicant's claims in the following.

## Independent Claim 1

Claim 1 recites (with emphasis added):

1. A method for adaptively compressing test data to be provided to a device under test (DUT), the method comprising the steps of:  
examining a test data file that includes a first plurality of data units corresponding to a first plurality of DUT pins and a second plurality of data units corresponding to a second plurality of DUT pins;  
**determining a timing complexity for the first plurality of data units;**  
**determining a timing complexity for the second plurality of data units;**  
compressing the first plurality of data units using a first compression technique; and  
compressing the second plurality of data units using a second compression technique.

As indicated above, Applicant respectfully submits that the rejection to claim 1 has been rendered moot through amendment. Additionally, Applicant respectfully submits that claim 1 is allowable over *Ishida*. Applicant has amended claim 1 to incorporate features of claim 2, and hence addresses the rejection to claim 2 in the context of amended claim 1. In particular, the Office Action (page 3) refers the Applicant to col. 3, lines 38-47 for support of the rejection of claim 2. That cited section of *Ishida* provides as follows:

In a datacompressing method of a preferred embodiment, the dividing step includes the steps of: calculating a threshold value of the number of data changes for dividing the input data into unit data sequences; counting the number of data changes of each the divided unit data sequence of the input data; comparing the actual number of data changes with the threshold value; and distributing a divided unit data sequence to one of the plurality of blocks in accordance with the comparison result; whereby the input data can be divided into proper blocks.

Applicant respectfully submits that there is nothing in this cited section of *Ishida*, nor elsewhere in *Ishida*, that discloses the above-emphasized claim features. Simply monitoring or evaluating data changes does not necessarily involve any determination as to timing complexity. Accordingly, Applicant respectfully submits that claim 1 is allowable over the art of record, and respectfully requests that the rejection be withdrawn.

Because independent claim 1 is allowable over *Ishida*, dependent claims 4-7 and 11 are allowable as a matter of law for at least the reason that the dependent claims 4-7 and 11 contain all elements of their respective base claim. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

#### Independent Claim 12

Claim 12 recites (with emphasis added):

12. A method for adaptively compressing test data to be provided to a device under test (DUT), the method comprising the steps of:  
examining a test data file that includes test data configured to enable testing the DUT, the test data file including a first plurality of data units and a second plurality of data units, the first plurality of data units corresponding to a first plurality of DUT pins, and the second plurality of data units corresponding to a second plurality of DUT pins, **wherein the first plurality of DUT pins are clock-pins and the second plurality of DUT pins are non-clock-pins;**  
determining that the first plurality of data units have a first compressibility characteristic; and  
determining that the second plurality of data units have a second compressibility characteristic.

As indicated above, Applicant respectfully submits that the rejection to claim 12 has been rendered moot through amendment. Additionally, Applicant respectfully submits that claim 12 is allowable over *Ishida* and in general, the art of record. Applicant has amended claim 12 to incorporate features of claim 14, but will address the rejection to claim 14 in Section II below. Accordingly, Applicant respectfully submits that claim 12 is allowable over the art of record, and respectfully requests that the rejection be withdrawn.

Because independent claim 12 is allowable over *Ishida*, dependent claim 16 is allowable as a matter of law for at least the reason that the dependent claim 16 contains all elements of its respective base claim. See, e.g., *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988).

### Independent Claim 17

Claim 17 recites (with emphasis added):

17. A system for adaptively compressing test data to be provided to a device under test (DUT), the system comprising:

memory configured to store a test data file that includes a first plurality of data units corresponding to a first plurality of DUT pins and a second plurality of data units corresponding to a second plurality of DUT pins; and

*a processor operative to:*

*determine a timing complexity for the first plurality of data units;*

*determine a timing complexity for the second plurality of data units;*

compress the first plurality of data units using a first compression technique; and

compress the second plurality of data units using a second compression technique.

As indicated above, Applicant respectfully submits that the rejection to claim 17 has been rendered moot through amendment. Additionally, for similar reasons presented in association with claim 1, Applicant respectfully submits that claim 17 is allowable over *Ishida*, and hence respectfully requests that the rejection to claim 17 be withdrawn.

Because independent claim 17 is allowable over *Ishida*, dependent claims 20-23 and 27 are allowable as a matter of law.

### Independent Claim 28

Claim 28 recites (with emphasis added):

28. A system for adaptively compressing test data to be provided to a device under test (DUT), the system comprising:

memory configured to store a test data file that includes test data configured to enable testing the DUT, the test data file including a first plurality of data units and a second plurality of data units, the first plurality of data units corresponding to a first plurality of DUT pins, and the second plurality of data units corresponding to a second plurality of DUT pins, ***wherein the first plurality of DUT pins are clock-pins and the second plurality of DUT pins are non-clock-pins;*** and

a processor that is operative to:

determine that the first plurality of data units have a first compressibility characteristic;

determine that the second plurality of data units have a second compressibility characteristic.

As indicated above, Applicant respectfully submits that the rejection to claim 28 has been rendered moot through amendment. Additionally, Applicant respectfully submits that claim 28 is allowable over *Ishida* and in general, the art of record. Applicant has amended claim 28 to incorporate features of claim 30, but will address the rejection to claim 30 in Section II below. Accordingly, Applicant respectfully submits that claim 28 is allowable over the art of record, and respectfully requests that the rejection be withdrawn.

Because independent claim 28 is allowable over *Ishida*, dependent claim 32 is allowable as a matter of law.

Due to the shortcomings of the *Ishida* reference described in the foregoing, Applicant respectfully asserts that *Ishida* does not anticipate Applicant's claims. Therefore, Applicant respectfully requests that the rejection of these claims be withdrawn.

## **II. Claim Rejections - 35 U.S.C. § 103(a)**

### **A. Statement of the Rejection**

Claims 3, 8, 9, 13, 14, 19, 24, 25, 29 and 30 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Ishida* and further in view of *Wang et al.* ("*Wang*," U.S. Publication No. 2006/0242502). Claims 10, 15, 26 and 31 have been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over *Ishida* and further in view of *Testa et al.* ("*Testa*," U.S. Pat. No. 6205407). Applicant respectfully traverses these rejections where not rendered moot by amendment.

### **B. Discussion of the Rejection**

The U.S. Patent and Trademark Office ("USPTO") has the burden under section 103 to establish a *prima facie* case of obviousness according to the factual inquiries expressed in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). The four factual inquiries, also expressed in MPEP 2100-116, are as follows:

- (A) Determining the scope and contents of the prior art;
- (B) Ascertaining the differences between the prior art and the claims in issue;
- (C) Resolving the level of ordinary skill in the pertinent art; and
- (D) Evaluating evidence of secondary considerations.

Applicant respectfully submits that a *prima facie* case of obviousness is not established using the art of record.

**Claims 3, 8, 9, 13, 14, 19, 24, 25, 29, and 30**

Applicant respectfully submits that *Ishida* fails to disclose, teach, or suggest at least the above-emphasized features of independent claims 1, 12, 17, and 28. Further, Applicant respectfully submits that *Wang* fails to remedy these deficiencies. For instance, with regard to claim 14, the features of which are incorporated into independent claim 12, the Office Action refers to the rejection of claim 3 for an explanation as to the reasons for the rejection. The Office Action addresses the reasoning for the rejection of claim 3 on pages 5 and 6 by referencing Figure 1 of *Wang*, and in particular reference characters 111 (allegedly for clock signals) and 113 (allegedly for non-clock signals). In the description of *Wang* corresponding to reference characters 111 and 113, *Wang* provides as follows in paragraph [0061]:

[0061] The ATE 102 applies a set of fully specified test patterns 103, one by one, to the CUT 107 via scan chains 109 in scan mode from external scan input pins 111 as well as from external primary input pins 113. The CUT is then run in normal mode using the applied test pattern as input, and the response to the test pattern is captured into the scan chains. The CUT is then put back into scan mode again and the test response is shifted out to the ATE via scan chains from external scan output pins 112 as well as from external primary output pins 114. The shifted-out test response 104 is then compared by the comparator 105 with the corresponding expected test response 106 to determine if any fault exists in the CUT, and indicates the result by the pass/fail signal 115.

Neither the above-cited section of *Wang*, nor elsewhere in *Wang*, discloses, teaches, or suggests that the signals pertaining to the external scan input pins 111 and the external primary input pins 113 correspond to clock signals and non-clock signals, respectively. As

another example, and for similar reasons explained in association with claim 14, the rejection to claim 30 (features of which are incorporated into independent claim 28) fails to disclose, teach, or suggest at least the features emphasized above in amended independent claim 28. For at least the reason that *Ishida* and *Wang* fail to disclose, teach, or suggest at least the features emphasized above for independent claims 1, 12, 17, and 28, dependent claims 3, 8, 9, 13, 14, 19, 24, 25, 29, and 30 (which incorporate the respective allowable base claim features) are allowable as a matter of law. Accordingly, Applicant respectfully requests that the rejection to claims 3, 8, 9, 13, 14, 19, 24, 25, 29, and 30 be withdrawn.

#### **Claims 10, 15, 26, and 31**

Applicant respectfully submits that *Ishida* fails to disclose, teach, or suggest at least the above-emphasized features of independent claims 1, 12, 17, and 28. Further, Applicant respectfully submits that *Testa* fails to remedy these deficiencies. For at least the reason that *Ishida* and *Testa* fail to disclose, teach, or suggest at least the features emphasized above for independent claims 1, 12, 17, and 28, dependent claims 10, 15, 26, and 31 (which incorporate the respective allowable base claim features) are allowable as a matter of law. Accordingly, Applicant respectfully requests that the rejection to claims 10, 15, 26, and 31 be withdrawn.

In summary, it is Applicant's position that a *prima facie* for obviousness has not been made against Applicant's claims. Therefore, it is respectfully submitted that each of these claims is patentable over the art of record and that the rejection of these claims should be withdrawn.

### **III. Canceled Claims**

As identified above, claims 2, 14, 18, and 30 have been canceled from the application through this Response without prejudice, waiver, or disclaimer. Applicant

reserves the right to present these canceled claims, or variants thereof, in continuing applications to be filed subsequently.



**CONCLUSION**

Applicant respectfully submit that Applicant's pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Furthermore, any and all findings of well-known art and official notice, and similarly interpreted statements, should not be considered well known since the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

/dr/

David Rodack  
Registration No. 47,034

**THOMAS, KAYDEN,  
HORSTEMEYER & RISLEY, L.L.P.**  
Suite 1750  
100 Galleria Parkway N.W.  
Atlanta, Georgia 30339  
(770) 933-9500